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Bulk Container Cap with Safety Indicator

FIELD OF THE INVENTION

This invention relates generally to bulk bin caps having safety indicators.

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BACKGROUND OF THE INVENTION

Large corrugated material containers, such as pallet sized bulk bins, are created for a variety of purposes. For example, the containers are used for storing, shipping or displaying relatively heavy produce such as watermelons, cantaloupes, and bagged apples. The bulk bins often include caps or other container structure to cover the ends of the bulk bins. In use, these containers and caps are generally mounted on or attached to pallets or similar structure for ease of storing or moving the container. Generally, the container design is typically a modified square or rectangular shaped with truncated corner regions. However, the truncated shape of the containers potentially creates a potentially hazardous problem because the pallet corners extend outside the truncated corners. A person may not notice the pallet corners and trip over them.

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SUMMARY OF THE INVENTION

The invention comprises a modified octagonal palletized shipping and display bin cap which has four triangular flaps designed into the bottom panel configuration. These flaps overlie the exposed supporting structure corners and may have various warning indicia

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printed on them to alert passers by. The indicia may be stripes, solid fields, or other patterns usually printed in bright colors so as to be readily seen. So-called "day glow" colors are very effective. The flaps act as warning flags to alert nearby people to the potential hazard condition. They can be printed at the same time and on the same surface as other material
5 that might appear on the sides of the bins.

The warning tabs are readily formed when the corrugated paperboard blanks for the bin caps are cut out. They do not complicate the process in any manner or require additional material since they are formed from material used to form the bin cap. The tabs remain attached to the bottoms of the corner panels allowing them to be bent outwardly during the
10 bin setup process. They effectively cover the exposed corners of the pallets while remaining firmly attached to the bin itself.

BRIEF DESCRIPTION OF THE DRAWINGS

The preferred and alternative embodiments of the present invention are described in
15 detail below with reference to the following drawings.

FIGURE 1 is a plan view of a container blank formed according to the present invention;

FIGURE 2 is a perspective view of a partially formed container according to the present invention;

20 FIGURE 3 is another perspective view of a partially formed container according to the present invention;

FIGURE 4 is another perspective view of a formed container according to the present invention;

25 FIGURE 5 is a perspective view of the safety indicator set-up according to the present invention;

FIGURE 6 is a partial perspective view of the safety indicator set-up according to the present invention;

FIGURE 7 is a plan view of the container blank viewed from the bottom; and

FIGURE 8 is a partial perspective view of the safety indicator set-up and pallet.

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DETAILED DESCRIPTION OF THE INVENTION

The present invention will now be described with reference to the accompanying FIGURES. The present invention provides a safety indicator for containers that are placed upon or otherwise connected to pallets 52 or other shipping structure. FIGURE 1 depicts the
10 blank 20 used to form the container 50. The blank 30 is preferably constructed from a single piece of formable material, such as, without limitation, corrugated material. More specifically, the blank 30 is preferably constructed from a corrugated material having a plurality of corrugated sections. The blank 30 is cut, scored, perforated or otherwise formed to include a plurality of panels which, when assembled, create the container 54 of the present
15 invention. Wherever possible the same number is used in related panels of the container 54. More specifically, in all FIGURES, like numbers indicate like parts. Additionally, cuts are shown as solid lines, score lines as dashed lines and lines of perforations as broken lines.

The present invention is preferably formed from containerboard. However, other materials are considered within the scope of this invention, such as, without limitation,
20 paperboard, fibreboard, corrugated containerboard, single wall corrugated containerboard, double wall corrugated containerboard and triple wall corrugated containerboard. As such, the material from which the blank 20 and container 50 are constructed from are not considered limitations to the present invention.

For the purposes of this description herein, the downward direction is defined as the
25 direction perpendicular to the outer surface of the bottom panel 22 when the container 50 has

been erected. The upward direction is defined as the direction perpendicular to the inner surface of the bottom panel 22 when the container 50 has been erected.

With reference to FIGURE 1, the blank 20 is configured to form a generally octagon shaped container 50. The blank includes a bottom panel 22 and opposed side panels 24. The side panels also include a side panel tab 26 disposed on opposite sides of the side panels 24. Connected to the bottom panel intermediate the side panels are a first corner panel 28. Connected to the first corner panel 28 opposite the bottom panel 22 is a second corner panel 28. Formed in the bottom panel are bottom flaps 32. The bottom flaps are formed such that they are hingedly connected to the bottom panel 22 along an edge closest to the first side panel 28.

The first corner panel 28 and the second corner panel may include a locking arrangement, such as a slot and tab. For example, the FIGURES show a corner tab 56 formed in the second corner panel 30 and a corner slot 58 formed in the first corner panel 28. However, it will be appreciated that the location of the corner slot 58 and the corner tab 56 may be reversed. Likewise, any other known locking mechanism may be used without exceeding the scope of the present invention.

With respect to FIGURE 2, formation of the container 50 from blank 22 is initiated by folding the side panel 24 upwardly approximately 90 degrees relative to the bottom panel 22. Also, the side panel tabs 26 are folded upwardly or inwardly, depending upon the timing of this specific formation procedure. Then, as best seen in FIGURES 2-4, the first corner panel 28 and the second corner panel 28 are folded upwardly to bring the first corner panel 28 adjacent the side panel tabs 26. The second corner panel is then folded over to bring itself adjacent the side panel tabs 26 as well. It will be appreciated that this container 50 is now in a usable form.

FIGURES 5-8 depict the safety feature of the present invention. Once the container 50 is formed, and prior to placing the container on a pallet 52, the bottom flaps 32 are folded

downwardly and them outwardly in a manner shown in FIGURES 6 and 8 by arrow C. The container 50, with the bottom flaps 32 outwardly extending, may then be place on a pallet 52 such that the outwardly extending bottom flaps 32 substantially cover the corners of the pallet 52. Also, as shown in FIGURES 7 and 8, and indicia may be printed or otherwise
5 affixed to an outer surface of bottom flap 32 and the first corner panel 28. In this manner, when fully employed, the indicia will show as depicted in FIGURE 8.

While the preferred embodiment of the invention has been illustrated and described, as noted above, many changes can be made without departing from the spirit and scope of the invention. Accordingly, the scope of the invention is not limited by the disclosure of the
10 preferred embodiment. Instead, the invention should be determined entirely by reference to the claims that follow.